

## REMARKS

This Application has been reviewed in light of the Office Action mailed December 5, 2008. At the time of the Office Action, Claims 14-23 were pending in this Application. Claims 14-23 were rejected. Claim 14 has been amended to further define various features of Applicants' invention. Claims 1-13 were previously cancelled without prejudice or disclaimer. Applicants respectfully request reconsideration and favorable action in this case.

### Telephone Interview Summary

Applicants' attorney Eric M. Grabski conducted an Examiner interview on March 26, 2009 with Examiner Eueng-nan Yeh and at least one other Examiner (not specifically identified to Mr. Grabski), to discuss (a) the 35 U.S.C. §101 rejections and (b) the 35 U.S.C. §103 rejection of independent Claim 14. Because multiple Examiners were talking during the call, Mr. Grabski was not sure which Examiner was making each particular comment. Due to this lack of distinction between the Examiners on the call, Applicants herein refer to the Examiners on the interview call collectively as "the Examiners." Any reference in this document to "the Examiner" in the singular refers specifically to Examiner Yeh.

Regarding the 35 U.S.C. §101 rejections, the Examiners suggested amending the preamble of Claim 14 to read "A method for coding a sequence of digitized images with a plurality of macro blocks in error-prone networks, said method comprising using a computer to perform the steps comprising:" Applicants have amended Claim 14 accordingly.

Regarding the 35 U.S.C. §103 rejections, Mr. Grabski explained that the features of Claim 14 are not taught in the cited reference *Kim02*, as alleged in the Office Action. The Examiners considered this point and stated that they would need to review *Kim02* to confirm. However, the Examiners then stated that regardless of whether this feature of Claim 14 was explicitly taught in *Kim02*, the features of Claim 14 are provided by the M.P.E.G. standard. Mr. Grabski suggested that Applicants further analyze the M.P.E.G. standard and respond accordingly in this Response. As discussed below, although Applicants do not necessarily agree that the M.P.E.G. standard reads on the recited features of Claim 14, Applicants have

amended Claim 14 to more clearly recite the inventive features in order to distinguish from the cited references and the M.P.E.G. standard.

Applicants' attorney Eric M. Grabski thanks the Examiners for their consideration and helpful suggestions and explanations during the interview.

### **Rejections under 35 U.S.C. §101**

Claims 14-23 were rejected under 35 U.S.C. §101 as not falling within one of the four statutory categories of invention. As discussed in the "Telephone Interview Summary," Applicants have amended the preamble of Claim 14 to read "A method for coding a sequence of digitized images with a plurality of macro blocks in error-prone networks, said method comprising using a computer to perform the steps comprising:" as suggested by the Examiners. This amendment adds no new matter. It is clearly inherent from Applicants' specification that the claimed method is performed by a computer. The invention is specifically directed toward video coding of sequences of digitized images using complex intra-coding and inter-coding algorithms, e.g., as discussed at paragraphs 0021-0037, which clearly must be done by a computer. In addition, the Specification specifically discloses "A device for coding a sequence of digitized images in error-prone networks," clearly referring to a computer device for digitized images in error-prone computer networks. (paragraph [0012]). For at least these reasons, one of ordinary skill in the art would clearly understand that the performance of the claimed method by a computer is inherently taught in the specification. Accordingly, Applicants respectfully request that the 35 U.S.C. §101 rejections be withdrawn.

### **Rejections under 35 U.S.C. §103**

Claims 14-17 stand rejected under 35 U.S.C. §103(a) as being unpatentable over the combination of U.S. Patent Application Publication No. 2003/0031128 filed by Jin-Gyeong Kim et al. ("*Kim*") and U.S. Patent Application Publication No. 2002/0126757 filed by Hyun-cheol Kim et al. ("*Kim02*"). In addition, as discussed in the "Telephone Interview Summary," the Examiners indicated during the telephone interview that if *Kim02* does not

explicitly disclose the features of Claim 14, the M.P.E.G. standard itself does disclose such features.

Claims 18-23 stand rejected under 35 U.S.C. §103(a) as being unpatentable over the combination of *Kim* and *Kim02* as described above, and further in view of U.S. Patent No. 6,078,618 issued to Yutaka Yokoyama et al. ("*Yokoyama*").

Applicants respectfully submit that the cited art combinations, even if proper, which Applicants do not concede, do not render Applicants' amended claims obvious. However, in order to advance prosecution, Applicants have amended Claim 14 to more clearly recite the inventive features in order to distinguish from the cited references and the M.P.E.G. standard.

Amended Claim 14 now recites:

14. A method for coding a sequence of digitized images in error-prone networks, said method comprising using a computer to perform the steps comprising:

for each image, coding only a portion of the image areas of that image by a first intra-coding mode depending on a predetermined criteria;

coding a particular image area of a particular image by an inter-coding mode, including:

identifying a set of accessible reference images from which to select a motion vector for coding the particular image area by the inter-coding mode;

selecting a first image area of a first accessible reference image;

determining whether a second image area of a subsequent second accessible reference image that corresponds with the first image area was coded by the first intra-coding mode;

if the second image area was coded by the first intra-coding mode, removing the first reference image from the set of accessible reference images from which to select a motion vector;

selecting a motion vector from the set of accessible reference images;

and

using the selected motion vector for coding the particular image area by the inter-coding mode.

None of the cited references -- *Kim*, *Kim02*, *Yokoyama*, or the M.P.E.G. standard -- teach these features. In particular, the cited references, alone or in combination, do not teach (a) coding only a portion of the image areas for each of a sequence of images by a first intra-coding mode, and (b) coding a particular image area of a particular image by an inter-coding mode, where the inter-coding includes (i) selecting an image area of a first reference image, (ii) determining whether a corresponding image area of a subsequent second reference image was coded by the first intra-coding mode, and (iii) if so, removing the first reference image from a set of accessible reference images from which to select a motion vector for performing the inter-coding of the particular image area.

*Kim02* does not teach coding only a portion of the image areas for each of a sequence of images by a first intra-coding mode, and coding a particular image area of a particular image by an inter-coding mode. Further, *Kim02* does not teach limiting a set of reference images accessible for inter-coding a particular image area of a particular image to images in which image areas corresponding to the particular image area were not coded by an intra-coding mode. Thus, *Kim02* clearly does not teach this feature as more explicitly defined in amended Claim 14.

The M.P.E.G. standard -- asserted by the Examiners during the telephone interview -- also does not teach the features of amended Claim 14. Applicants refer the Examiner to <http://www.fh-friedberg.de/fachbereiche/e2/telekom-labor/zinke/mk/mpeg2beg/beginnzi.htm>, entitled "A Beginners Guide for MPEG-2 Standard" by Victor Lo (hereinafter "*MPEG Beginners Guide*," which is submitted in full in an attached Information Disclosure Statement. *MPEG Beginners Guide* explains that the MPEG standard specifically defines three types of pictures: (1) Intra Pictures (I-Pictures), (2) Predicted Pictures (P-Pictures), and (3) Bidirectional Pictures (B-Pictures), and provides the following definition of each of these three types of pictures:

### Intra Pictures

Intra pictures, or I-Picture, are coded using only information present in the picture itself, and provides potential random access points into the compressed video data. It uses only transform coding and provide moderate compression. Typically it uses about two bits per coded pixel.

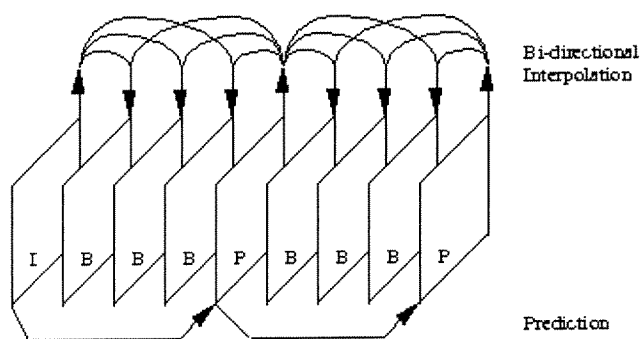
### Predicted Pictures

Predicted pictures, or P-pictures, are coded with respect to the nearest previous I- or P-pictures. This technique is called forward prediction and is illustrated in above figure. Like I-pictures, P-pictures also can serve as a prediction reference for B-pictures and future P-pictures. Moreover, P-pictures use motion compensation to provide more compression than is possible with I-pictures.

### Bidirectional Pictures

Bidirectional pictures, or B-pictures, are pictures that use both a past and future picture as a reference. This technique is called bidirectional prediction. B-pictures provide the most compression since it use the past and future picture as a reference [sic], however, the computation time is the largerst [sic].

*MPEG Beginners Guide* also provides the following illustration of the MPEG-2 standard:



Thus, based on the definitions and illustrations of I-Pictures, P-Pictures, and B-Pictures shown above, there is no teaching of intra-coding only a portion of the image areas for each of a sequence of images, or coding a particular image area of a particular image by an inter-coding mode. Further, the MPEG standard does not specify inter-coding analysis

that includes (i) selecting an *image area* of a first reference image, (ii) determining whether a *corresponding image area* of a subsequent second reference image was coded by the first intra-coding mode, and (iii) if so, removing the first reference image from a set of accessible reference images from which to select a motion vector for performing the inter-coding of the particular image area, as recited in amended Claim 14.

In the MPEG standard discussed above: First, I-Pictures are intra-coded. Second, P-Pictures are predicted based on the nearest previous I-Picture or P-Picture (see illustration above). There is no teaching that a particular image area of a P-Picture can be inter-coded using a set of reference images that excludes a reference I-Picture or P-Picture based on whether a particular image area of a subsequent reference I-Picture or P-Picture was coded using an intra-coding mode. Third, B-Pictures are predicted based on the nearest past I-Picture or P-Picture and the nearest future I-Picture or P-Picture. There is no teaching that a particular image area of a B-Picture can be inter-coded using a set of reference images that excludes a reference I-Picture or P-Picture based on whether a particular image area of a subsequent reference I-Picture or P-Picture was coded using an intra-coding mode.

For at least these reasons, the M.P.E.G. standard does not teach the relevant features of amended Claim 14. *Kim* and *Yokoyama* also fail to teach these features of amended Claim 14. Therefore, Applicants respectfully request reconsideration and allowance of amended Claim 14, as well as all claims that depend from Claim 14.

### CONCLUSION

Applicant has made an earnest effort to place this case in condition for allowance in light of the remarks set forth above. Applicant respectfully requests reconsideration of the pending claims.

Applicants respectfully submit a Petition for Three-Month Extension of Time. The Commissioner is authorized to charge the fee of \$1,110 required to Deposit Account 50-4871 of King & Spalding LLP in order to effectuate this filing. Applicants believe there are no additional fees due at this time. However, the Commissioner is hereby authorized to charge any fees necessary or credit any overpayment to Deposit Account No. 50-4871 of King & Spalding LLP.

If there are any matters concerning this Application that may be cleared up in a telephone conversation, please contact Applicant's attorney at 512-457-2030.

Respectfully submitted,  
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**APPENDIX**  
**AMENDED DRAWINGS**